

CLAIMS

We claim:

5 1. A method to eliminate biological agents from contaminated mail comprising;
depositing mail in an enclosure;
covering the mail with a chemical decontaminant;
destroying biological agents; and
removing mail from the enclosure.

10 2. A method as claimed in claim 1 wherein said enclosure comprises a resident
mailbox, postal service mailbox and postal mail sorting facility receiving box.

15 3. A method as claimed in claim 1 wherein said covering the mail with a chemical
decontaminant further comprises shifting the mail to expose additional mail surface area to
said decontaminant.

20 4. A method as claimed in claim 1 wherein said covering the mail with a chemical
decontaminant further comprises the mail is covered by a misted form of the
decontaminant or a fog form of the decontaminant.

25 5. A method as claimed in claim 1 wherein said chemical decontaminant comprises
a mixture of bleach and water.

6. A method as claimed in claim 5 wherein said mixture of bleach and water
comprises about 0.5% bleach.

7. A method as claimed in claim 5 wherein said decontaminant comprises a
mixture of stable bleach and water.

8. A method as claimed in claim 1 wherein said biological agents comprise *Bacillus anthraces* (anthrax).

5 9. A method as claimed in claim 8 wherein said biological agents further comprises *Staphylococcus aureus*, *Salmonella choleraesuis*, *Pseudomonas aeruginosa*, *Yersinia pestis* (Bubonic Plague), *Clostridium botulinum* (Botulism), *Mycobacterium tuberculosis* (TB), Hepatitis A, B and C, HIV (AIDS), Tularaemia and Smallpox.

10 10. A method as claimed in claim 1 further comprising drying residual decontaminant and removing airborne decontaminant in said enclosure after said destroying biological agents.

15 11. A method as claimed in claim 1 wherein said depositing mail in an enclosure further comprises cross-contaminated mail.

12. An apparatus to eliminate biological agents from contaminated mail comprising;

20 an enclosure to contain deposited mail; and

a bio-safe device to perform a treatment cycle of the mail with a chemical decontaminant to destroy biological agents.

13. An apparatus as claimed in claim 12 wherein said enclosure comprises a resident mailbox, postal service mailbox and postal mail sorting facility receiving box.

25 14. An apparatus as claimed in claim 12 wherein said bio-safe device further comprises;

a controller to control the treatment cycle;

a control panel to receive user control inputs and display system status;

5 a pump to drive the chemical decontaminant into said enclosure;
a first fan to circulate the decontaminant through said enclosure;
a second fan to dry decontaminant and exhaust airborne decontaminant;
indicator lights to indicate the status of said bio-safe device;
a battery to power said bio-safe device; and
a door switch to signal the controller whether the enclosure door is open or closed.

10 15. An apparatus as claimed in claim 14 further comprises a valve to control the flow of compressed gas or aerosol decontaminant.

15 16. An apparatus as claimed in claim 14 further comprises an agitator to shift the mail to expose additional surface area of the mail to the decontaminant during the treatment cycle.

20 17. An apparatus as claimed in claim 14 where the first fan and second fan are the same fan.

25 18. An apparatus as claimed in claim 14 wherein said biological agents comprise *Bacillus anthraces* (anthrax).

19. An apparatus as claimed in claim 14 wherein said biological agents further comprises *Staphylococcus aureus*, *Salmonella choleraesuis*, *Pseudomonas aeruginosa*, *Yersinia pestis* (Bubonic Plague), *Clostridium botulinum* (botulism), *Mycobacterium tuberculosis* (TB), Hepatitis A, B and C, HIV (AIDS), tularemia and smallpox.

25 20. An apparatus as claimed in claim 14 where said indicator lights indications comprise the system is functional, the bio-safe device is engaged in a treatment cycle and the decontaminant level is low.

21. An apparatus as claimed in claim 14 where said battery is a rechargeable battery.

22. An apparatus as claimed in claim 21 further comprises a solar panel to provide
5 power to operate said bio-safe device and charge said battery.

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